

Remarks

Claims 1-22 are pending in the present application. Claims 1 and 11 are independent.

The claims have been amended to clarify the invention according to U.S. practice. These modifications do not add new matter.

Allowable Subject Matter

Claims 4-5 and 14-15 remain objected to, but allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

35 U.S.C. § 103 Rejection

Claims 1-3, 6-13 and 16-22 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Pollard et al. (U.S. Patent No. 6,266,439) in view of Krtolica (U.S. 2003/0012438 A1). This rejection, insofar as it pertains to the presently pending claims, is respectfully traversed.

Without acquiescing to any of the Examiner's allegations made in rejecting these claims, in independent claims 1 and 11, the "grouping" feature has been modified or clarified into "distinguishing groups of said other connected components, a grouping formed by contiguous connected components that are not separated from each other by pixels belonging to a background connected component". In the last Office Action, the Examiner correctly acknowledges that Pollard et al. does not expressly provide this

“grouping” feature and thus relies on Krtolica to correct the deficiency of Pollard et al. However, Applicant respectfully submits that Krtolica does not teach this grouping feature, which is now clarified as the feature of “distinguishing groups...” as recited in independent claims 1 and 11.

Particularly, Krtolica discloses distinguishing text lines in a document image by size reduction of the document image such that the characters flow together, leaving only the lines (and possibly other objects) recognizable. Next, the reduced image is analyzed as to connected components (CCs), which include lines but also other objects (refer to [0051]). Accordingly, a filter step is necessary to disregard all except the “line” CCs , which are then used to identify the lines in the original document image. Thus, Krtolica discloses a step of actively putting together elements that originally are separated by space. For further processing, these elements must again be separated, since they have a meaning of their own, which must be recognized in the postprocessing (OCR).

In clear contrast, the presently embodied inventions includes a feature of distinguishing existing groups of elements that originally are contiguous, i.e., *not* separated by space. Such elements should not be separated again later, since they do not have a meaning of their own, but rather are part of a single character. As such, Applicant’s embodied invention differs from Krtolica and Krtolica addresses a totally different problem that is not relevant for the present invention.

Therefore, Krtolica fails to teach or suggest, *inter alia*:

distinguishing groups of said other connected components, a group being formed by contiguous connected components that are not separated from each other by pixels belonging to a background connected component

as recited in independent claims 1 and 11.

Accordingly, even if the references were combinable (assuming *arguendo*), the combination of references as applied by the Examiner would still fail to teach or suggest at least the above-noted features recited in independent claims 1 and 11. Independent claims 1 and 11 and their dependent claims (due to their dependency) are thus patentable over the applied references, and the rejection is improper and should be withdrawn.

In the alternative, Pollard et al. and Krtolica, either taken singularly or in combination thereof, fail to teach or suggest the feature of allocating connected components to a foreground or to the background on the basis of their respective colors, as recited in independent claim 1 and 11.

In the alternative, claims 3, 6-10, 13 and 16-20 are allowable over the prior art of record because the Examiner has failed to set forth a *prima facie* case of obviousness in the Office Action dated April 4, 2005. The discussion of these claims pertaining to the § 103 rejection is completely absent from the Office Action and thus, Applicant cannot understand the Examiner's § 103 rejection of these claims and cannot address them in any effective manner. Thus, the rejection of these claims is improper and must be withdrawn.

Conclusion

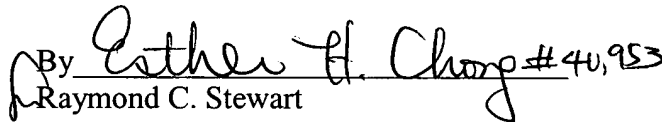
For the foregoing reasons and in view of the above clarifying amendments, the Examiner is respectfully requested to reconsider and withdraw all of the objections and rejections of record, and to provide an early issuance of a Notice of Allowance.

Should there be any outstanding matters which need to be resolved in the present application, the Examiner is respectfully requested to contact Esther H. Chong (Registration No. 40,953) at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and further replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Respectfully submitted,

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